

# More Multiplication Properties of Exponents

Guide Notes

## More Multiplication Properties of Exponent

Power of a Power  $(a^m)^n = a^{mn}$

Power of a Product  $(ab)^m = a^m b^m$

**Sample Problem 1:** Simplify the following expressions.

1.  $(x^2)^3$

2.  $(2^2)^3$

3.  $(ab)^3$

4.  $(2x)^2$

**Sample Problem 2:** Evaluate the following using properties of powers.

5.  $ab^3(a^2b)^4$

6.  $(3x)(2x)^2$

7.  $-4^2(ab^2c^3)^3$

8.  $(4v^3)^2(2v^3)^3$

9.  $2x^3y^2(3x^{-2}y^{-1})^3$

10.  $\left(\frac{2x}{y}\right)^3(3x)^2$